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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,733	06/27/2003	Kentaro Nakajima	239567US2S	5307

22850 7590 02/08/2005

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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LE, VU ANH

ART UNIT	PAPER NUMBER
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2824

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

# Office Action Summary

Application No.

10/606,733

Applicant(s)

NAKAJIMA, KENTARO

Examiner

Vu A. Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 17 is/are rejected.
- 7) ☒ Claim(s) 2-16 and 18-27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 09/04/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Saito et al (6,781,872).

3. Saito et al disclose a magnetic memory device (Fig.3) comprising: a first conductive layer (DL); a second conductive layer (BL) formed above the first conductive layer and arranged substantially perpendicular to the first conductive layer; a plurality of magneto-resistance effect elements (C1, C2) formed between the first (DL) and second conductive layers (BL), arranged in the lengthwise direction of the first conductive layer and containing free layers (52, a recording layer) whose spin directions are controlled to be reversed by a resultant magnetic field caused by the first and second conductive layers (col.9, lines 27-32); and a magnetic layer (58) inserted between the first conductive layer (DL) and the magneto-resistance effect element and causing magnetic interaction with respect to the free layers of the magneto-resistance effect element.

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4. Claim 17 is rejected under 35 U.S.C. 102(e) as being anticipated by Hinder et al (6,707,083).

5. Hinder et al (Fig.3) disclose a magnetic memory device comprising: a first conductive layer (digit line, inherent); a second conductive layer (110, 120) formed above the first conductive layer and arranged substantially perpendicular to the first conductive layer; and a plurality of magneto-resistance effect elements (10) formed between the first and second conductive layers, arranged in the lengthwise direction of the first conductive layer and containing free layers (40) whose spin directions are controlled to be reversed by a resultant magnetic field caused by the first and second conductive layers; wherein the first conductive layer is formed of a soft magnetic body (120) which causes magnetic interaction with respect to the free layers of the magneto-resistance effect elements (col3, lines 7-50).

***Allowable Subject Matter***

6. Claims 2-16 and 18-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The dependent claims disclose the unique features such as a soft magnetic layer or the spin of the free layer is set in the lengthwise direction of the magneto-resistance effect element while the spin of the magnetic layer is set in the lengthwise direction of the magnetic layer or the magnetic layer is formed not only on the surface of the first

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conductive layer which faces the free layer but also on both side surfaces of the first conductive layer or a yoke portion if formed of the same material as the magnetic layer.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
9. Huai et al (6,829,161) disclose a magnetostatically coupled magnetic element utilizing spin transfer and an MRAM device using the magnetic element.
10. Hosomi et al (6,828,785) disclose a magneto-resistive effect element.

### ***Information Disclosure Statement***

11. The information disclosure statement filed 12/04/03 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because it does not have a column for examiner's initial. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vu A. Le whose telephone number is (571) 272-1871. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Vu A. Le  
Primary Examiner  
Art Unit 2824

02/04/05